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ABSTRACT

The booklet is designed for the principal with little background in special education who is responsible for administering a class for the physically handicapped in his building, or must supervise home or hospital classes. Essential elements of specialized services are described. Covered are definitions of handicapping conditions and their implications, and discussions of educational programs (residential and day), placement (team responsibility, records), educational provisions (facilities, equipment, materials), ancillary services (speech correction, physical therapy, occupational therapy, transportation), and administrative responsibilities (scheduling, supervision). (KW)

THE PRINCIPAL LOOKS AT CLASSES
FOR THE PHYSICALLY HANDICAPPED

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The Principal Looks at Classes for the Physically Handicapped

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Foreword

Education today is big business. Statistics compiled by the National Education Association in *Estimates of School Statistics, 1967-68* showed that approximately 45,000,000 children were enrolled in the elementary and secondary systems of the public schools alone.

One-half of one percent is the conservative incidence figure used by the United States Office of Education to compute the number of school age crippled and other health impaired children. This means that approximately a quarter of a million children enrolled in the public schools of the country are physically handicapped to the degree that they require some type of special educational service. Other children with mild physical involvements can participate successfully in regular classes if their limitations are recognized and if modifications and adaptations can be made to compensate for them.

Educators are beginning to accept the responsibility for the education of all children, including those who deviate physically, mentally, socially, or emotionally. Their awareness is reflected in the large number of special classes and services which are being established throughout the school systems of the nation.

This book has been prepared for the principal who has little or no background in special education, but has a class for the physically handicapped located in his building or has the responsibility for the supervision of home or hospital classes. The book is one of a series of publications concerned with the supervision of programs for the visually impaired, mentally retarded, gifted, and emotionally disturbed.

It is hoped that the essential elements of the spe-

cialized services described in this book will be of assistance to principals in providing the best possible type of educational program for those children who are physically handicapped.

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G.C.

Table of Contents

Foreword	iii
1. Introduction	1
2. Who Are the Physically Handicapped?	4
3. Handicapping Conditions	5
4. Implications of a Physical Handicap	7
5. Educational Programs	10
Residential Schools	
Day School Programs	
Special School	
Special Room	
Resource Room	
Home or Hospital Instruction	
6. Placement	16
Team Responsibility	
Records	
7. Educational Provisions	20
Physical Facilities	
Equipment	
Materials	

8. Ancillary Services	26
Speech Correction	
Physical Therapy	
Occupational Therapy	
Transportation	
9. Administrative Responsibilities	30
Scheduling	
Supervision	
10. Summary	35
APPENDIX	
A. Physically Handicapping Conditions	37
B. Selected List of Organizations	43

1 Introduction

Because the public schools have been a part of the culture of this country for a great many years they are frequently taken for granted. Historically, however, education was viewed as such an important function that it was reserved as a right of the individual states. Since a democracy accepts the responsibility for the education of all youth, the constitution of each state provides for an education system and stresses the fact that these opportunities are made available to all children. For many years, however, *all children* was interpreted to mean all children who were able to profit from the regular school program. Those who deviated either mentally, physically, socially, or emotionally, and who could not profit from or take part in the regular school program were not extended the right of an adequate public school education.

If we traced the growth of the special programs for the physically handicapped, we would find that at about the turn of the century a few larger metropolitan areas began to accept their moral responsibility for the education of these children. Most of the school districts which made special provisions did so independently without any organized state plan which offered leadership or financial assistance. The New York State Department of Education organized one of the first bureaus for handicapped children in 1926. Today, Title VI of the Elementary and Secondary Education Act enables every state to finance the planning for comprehensive programs for all exceptional children.

Although the educational movement for the physically handicapped began slowly in the early 1900's, the real emphasis came with World War II. During

that time many individuals were rejected for military service because of physically handicapping conditions. A large majority of these individuals had always been well accepted in their home communities. The fact that they had been identified as having physical handicaps which prevented them from entering the armed forces did not cause them to lose the status they had earned previously.

Following the war many servicemen who had suffered severe physical handicaps returned to resume their places in society. The acceptance of these people and their handicaps brought about a greater acceptance of physically handicapped people in general. Whereas formerly parents had frequently sheltered their exceptional children and had been reluctant to discuss their problems, attitudes began to change. With this newly aroused interest came the desire to provide educational programs for them. Today, practically every state has authorization for the establishment of special education facilities.

Physically handicapping conditions range from the extremely mild to the severely involved. The severity of the handicap and the resultant disabilities dictate the type of program which the child needs. Children with mild or moderate involvements for whom adaptations can be made which would enable them to participate in a regular class should remain there. Only those children who cannot profit from or participate in regular class activities should be considered for special class enrollment. Careful study should determine when and to what extent special services should be offered.

Generally, special classes for the physically handicapped are a part of the total school program and are housed in school buildings along with regular classes to provide for as much integration as possible. The ultimate goal of special educators is to assist exceptional children assume a worthwhile position in a non-handicapped society. The philosophy of most special educators is that such contacts should begin early so that the handicapped person can learn to accept his

disability, be realistic about his abilities, and be accepted by his peer group. This book will attempt to describe the characteristics of physically handicapped children as a group and to assist the administrator in integrating them into the total school program through specialized programs.

2 Who Are the Physically Handicapped?

The category, physically handicapped, is usually meant to identify those children with crippling conditions or chronic health problems but does not include those who are visually or auditorily handicapped. The physically handicapped child is defined as one whose range of motion is restricted or whose stamina is limited to the extent that he requires a special education program.

Originally, many districts limited enrollment in such classes to children with orthopedic difficulties. Youngsters with handicapping conditions which were not visible, such as nephritis or rheumatic fever, were ineligible. In many instances, enrollment in a special class for the physically handicapped was also reserved for those children who had average or above intelligence. More recently, many districts have established classes for children with multiple handicaps—that is, a physical handicap and mental retardation, a physical handicap and blindness, a physical handicap and a hearing loss, etc.

3 Handicapping Conditions

The Office of the Superintendent of Public Instruction in the State of Illinois has conducted a survey periodically to determine the types of diagnoses which appear most frequently in special classes and in home or hospital instruction programs. These studies show that through the years the frequency of certain diseases has seemed to diminish while others have become more apparent. During the early 1950's many children suffered the residual damage of poliomyelitis, which at that time led the list of handicapping conditions. With the advent of the Salk vaccine and other advances in medical science, polio is now well under control but a large number of more severely multiply involved children are being found. This probably can be traced to the drop in the mortality rate for infants who suffer from severe involvements such as cerebral palsy.

Appendix A contains descriptions of handicapping conditions which were among those reported most frequently in the surveys made by the Illinois Department of Special Education.

In addition to the diagnoses described, congenital anomalies, fractures, burns, and postsurgical cases frequently necessitate the protective environment of a special program on either a permanent or short term basis.

State regulations usually require that medical eligibility be determined by a licensed medical examiner. The school nurse can play an important role in the interpretation of medical reports as well as acting as liaison between examiner and school. Her training enables her to understand the health needs of the child and to cooperate with other school personnel in the

development and implementation of an appropriate educational program. This valuable resource should not be overlooked.

References

- Illinois Association of School Nurses. Report of the School Nurse Conference on the Exceptional Child. Normal, Ill.: Illinois State Department of Public Health, 1967. (mimeo)
- Shands, A. R. *Handbook of orthopaedic surgery*. St. Louis: C. V. Mosby, 1963.

4 Implications of a Physical Handicap

Let us consider how a handicapping condition may affect the social, emotional, and intellectual development of a child. The literature seems to show that in most instances a disability itself does not directly contribute to retarded development in any of these areas. A multiplicity of other factors indirectly affects the child's development. Many children suffer from congenital defects which have necessitated extensive stays in the hospital. Since these children cannot experience the routines to which the nonhandicapped child is exposed at home, they progress at a slower rate. During periods following surgery the child is frequently in extremely poor health. Under these circumstances he is not able to take full advantage of educational opportunities.

Many physically handicapped children are overprotected by their solicitous parents and society. They are denied the opportunity to learn by doing. Conversely, other children with unsightly deformities may be rejected by their parents as well as by society in general. A child's concept of himself is influenced by the concept he has of his own body. If disgust is projected in this image, the child is likely to attach this attitude to himself as a person. In these instances he often needs help and guidance in integrating a physical disability into a healthy concept.

Frequently the child is educationally retarded. This can be traced to the fact that he often misses prolonged periods of school or does not have the stamina to be interested in education. Many physically handicapped children suffer from visual difficulties. A child with cerebral palsy, for example, whose involved eye muscles create a constant movement of the eye (nystag-

mus) finds it virtually impossible to focus on a line of print and finds reading extremely difficult. Other children with gross involvement of the muscles of the arms and hands cannot write in a conventional manner.

New experiences cause some apprehension on the part of most well adjusted individuals. Physically handicapped children face the same apprehensions compounded by their limitations. Because of these limitations, such routine actions as opening a door to enter a room can continue to cause concern. Also, the attitude of the people with whom they come in contact cannot always be anticipated since it may range from solicitous, maudlin sympathy to total rejection.

Severely involved cerebral palsied children frequently cannot respond to a question quickly. During the interim when they are attempting to formulate the response in their minds and master control of their throat and facial muscles, the questioner may fail to wait and assume that they are incapable of answering. Inability to respond or react with verbal aggression, as well as physical inability to act, may leave the child completely frustrated. Frustrations such as these can be manifested in a number of ways by children who are physically limited. They may react by blaming others, repressing their desires, withdrawing into fantasy, accepting defeat, or compensating for the disability by finding a satisfactory alternative to the problem. Although it may appear that handicapped children have a low frustration tolerance, this may not be true in reality considering the intensity of the frustration stimuli.

The role of the teacher of physically handicapped children is much broader than that of a teacher of academic subjects alone. In addition to his training as an instructor, he must have a complete understanding of the physical disabilities and of their psychological and educational implications. Armed with this knowledge, the teacher will be able to understand the behavior of these children. It will be his responsibility to help the

child understand and accept his handicap and use his remaining talents to advantage. Simultaneously, the teacher will have the opportunity and responsibility of educating the nonhandicapped society within his school to understand and accept those who are disabled.

References

- Cruickshank, W., & Johnson, G. O. *Education of exceptional children and youth*. Englewood Cliffs, N.J.: Prentice-Hall, 1967.
- Kirk, S. A. *Educating exceptional children*. Boston: Houghton Mifflin, 1962.
- Magary, J. F., & Eichorn, J. R. *The exceptional child*. New York: Holt, Rinehart, & Winston, 1960.

5 Educational Programs

Special education is one of the few professions whose ultimate aim is to have its clients reduce and eventually terminate the need for service. Programs for the physically handicapped have been developed along various administrative patterns and the severity of the handicap itself usually determines the kind of program which the student should have. These programs range from a comprehensive residential type program to the limited contacts of a resource teacher. A single child may have need to transfer from one type of program to another as he proceeds through school and improves physically and academically. Professional medical people, as well as educators, usually feel that they have been extremely successful when a student is rehabilitated physically and is academically able to return to a fulltime regular class.

Residential Schools

Some children are so severely involved that they cannot participate in or profit from special classes designed for the physically handicapped. Some children, while not so severely handicapped, reside in sparsely settled areas and do not have access to special classes for the physically handicapped. These are the children who generally are enrolled in the residential schools. The type of program and the average length of stay in many publicly supported institutions of this type vary from state to state. Some residential schools limit the child's stay to a definite number of months. In this instance, the emphasis is put on diagnostic treatment with the intention of returning the child to his home community where therapies of indeterminate length may be continued. In other instances, residential schools offer a complete educational program in an

adapted hospital setting. Admission and discharge committees screen the applicants closely to establish that a child will be able to profit from the medical program and that he is academically able to use the facilities of the educational program. An effort is also made to avoid admitting children who have access to programs in their own communities from which they could profit equally as well.

The children who are admitted are offered an adapted educational program while they receive comprehensive medical treatment reinforced with the associated therapies (occupational therapy, physical therapy, etc.). Occasionally, corrective surgery is performed during the child's stay at the residential school. Periodic reevaluations of the child's progress indicate when he has made sufficient improvement and can be returned to his local community, when he has reached his optimum potential, or when he is no longer profiting from the extensive and expensive facilities. In some instances, children are enrolled at a very early age and continue their complete educational program through high school at the residential facility. Prior to graduation the school staff has usually worked closely with representatives from the vocational rehabilitation agencies. Efforts are made to plan for further education, vocational training, job placement, or a successful return to the home community.

Day School Programs

Physically handicapped children attending public schools can be provided for by a variety of programs which include special schools, special classes, resource rooms, or home and hospital instruction.

Special School. Some of the older established programs maintained by large metropolitan areas have developed their facilities into special schools. Newer programs which provide for handicapped children in a large geographic area have found that special schools have some distinct advantages. It might be advisable to take a closer look at some of the advantages and disadvantages of such programs.

When a particular building is selected as the site of a

special school and all physically handicapped children are assigned to that school, the enrollment quickly exceeds that which would be found in a single special class. The mere fact that large numbers of children are being dealt with permits grouping of youngsters in terms of physical needs as well as scholastic aptitudes. Fulltime speech therapists, occupational therapists, and physical therapists can be assigned to the special school and equipment made readily available. Transportation of children can be limited to the daily trip from home to school and back to home, while the professional people in the ancillary services need not lose time traveling between schools where they might ordinarily work only on a parttime basis. Extensive therapy units can be maintained, and the entire building can be designed with the idea of providing for children who are confined to wheelchairs or who are heavily braced and who use crutches. Elevators, ramps, extra wide doors, flat thresholds, and nonslick floor coverings eliminate many of the problems which are encountered in everyday life.

Special schools have some disadvantages, however. Many educators identify the primary objection as being the lack of contact or extremely limited contact which the physically handicapped child has with a nonhandicapped society. It has been found that some children who seemed to progress well in a special school had undue difficulty in adjusting when they were transferred to an integrated program or to a regular school program which made provisions for handicapped students.

Special Room. Many programs are operated in a special room within a regular school program. Here the specially certificated teacher has training which includes knowledge and understanding of the various physically handicapping conditions. Usually the enrollment is restricted to a reasonable number depending on the grade range to be covered and the types and severity of the handicaps represented by the children enrolled.

These classes may operate in a variety of ways. In some instances, the special classes are completely segregated from the rest of the school program. Although they are housed under the same roof, they are isolated from the mainstream of activity. This situation represents an extremely poor program.

Other special classes can be identified as an integrated program. In this type of program the children from the special class are integrated into the regular classes to the extent they are physically and academically able. In a typical integrated special class, a teacher may have a dozen students covering four or five grade levels. Some children may be so severely physically involved and/or so educationally retarded that they must spend the entire day in the special classroom. In the protective environment of the special class with the concentrated help of the specially trained teacher, the children may eventually reach the point where they can participate in limited activities within the total school program. Other youngsters within the special class may have sufficient physical stamina and may be academically advanced to the point where they can participate in regular grade activities. Frequently this integration begins with such socialization activities as music appreciation or art. The next logical progression might be to integrate the children in such classes as history, civics, or social studies, where class discussion and interchange of ideas play a significant part. Naturally, each case must be reviewed individually before recommendations for integration are made.

Some children who are not ready to return to regular classes on a fulltime basis but need only a minimum of special help may spend the greater portion of the school day in regular classes. It is readily evident that the opportunities to participate on a gradually increasing basis in regular classes enable a child to return to these regular classes on a fulltime basis with a minimum of difficulty.

Resource Room. Some school systems regard integration of special class students into the regular school

program as the key to success and, for this purpose, the special classes are established as resource rooms. In this type of program every physically handicapped child is assigned to a regular homeroom. This automatically makes him a part of the total school program; the child reports to the resource room for only that portion of the day during which he needs special help. Also, by virtue of enrollment in a regular class, the child is recognized as a part of the total school program.

Home or Hospital Instruction. Some children may be homebound or hospitalized for varying periods of time. Usually children are homebound during the recuperation time following surgery, accidents, or acute illnesses. In some instances children receive home instruction because they are too physically incapacitated to be transported to a special class or because no special class exists within transporting distance. Usually the program is not offered as a supplementary service, but as the complete educational program for that particular child. In most programs eligibility is determined by a medical examiner who judges that the child will be unable to attend either a regular class or a special class for the physically handicapped for a minimum length of time as determined by the local school district. The examiner usually indicates the nature of the illness and any physical limitations which must be placed upon the child. Individual bedside or homebound instruction is then provided on a regular basis with the intent of keeping the child on an academic level commensurate with his own class.

In short term cases it is imperative that the home or hospital instructor maintain extremely close contact with the regular classroom teacher so that the child may progress at the same rate. Ordinarily the child is able to return to the regular class at the end of his confinement with a minimum amount of transition time.

In long term cases when the child is restricted by confining body casts or other intensive medical treatment, it may be necessary for the home or hospital

instructor to make some adjustments in the program. Writing, for example, can be kept to a minimum since many things can be discussed orally in the one to one teaching situation. It should be pointed out that large numbers of children have completed their entire educational programs through home or hospitalized instruction.

The home to school telephone provides an excellent service for the more mature physically handicapped homebound or hospitalized student who is able to work unsupervised. This two way communication system enables a child to be in complete contact with his class throughout the school day. He can take part in the discussions and answer questions as well as exchange informal conversation with classmates before or after the formal class sessions. Usually the home to school telephone program is supplemented with several hours of personal contact each week on the part of a home or hospital instructor. This additional time provides an opportunity for presenting visual material, administering tests, or assisting the student who may need more help.

Information concerning the home to school telephone system can be secured from the local telephone company.

References

- Calovini, G. & Aschenbrenner, C. *Guide for administrators establishing classrooms for physically handicapped children.* Springfield, Ill.: Office of the Superintendent of Public Instruction, 1961.
- Calovini, G., & Aschenbrenner, C. *Guide for administrators wishing to establish home instruction for physically handicapped children.* Springfield, Ill.: Office of the Superintendent of Public Instruction, 1961.
- Connor, F. P. *Education of homebound or hospitalized children.* New York: Teachers College Press, Columbia University, 1964.

6 Placement

Many children who suffer from physical handicaps do not need the protective environment of the special class or the assistance of a special teacher. A child, for example, who wears a short-leg brace but is completely ambulatory, who has no difficulty in negotiating stairs, and who has no particular learning difficulties, will in all probability not need special class placement. Indeed, children with minimal physical involvement should not be considered for special class placement. Frequently, if the necessary transportation to and from school can be arranged, the child will be able to participate in a regular class full time. In other instances, the architecture of the child's neighborhood school may prevent him from attending. Older buildings which frequently have numerous steps may make it difficult for a child on crutches. However, in order to participate in a regular class, the child may only need transportation within the district to another building which does not present such architectural barriers.

Frequently a child can be accommodated by reassigning the location of the room where his class meets. This is particularly true in high school where an English or history class can be moved from the second floor to the ground level when elevators are not accessible. Classes in chemistry and physics which involve laboratory work, or course, cannot be shifted so easily. Asking a teacher to move who has worked in the same room for a number of years and has all his materials readily available there is not an easy job; however, these arrangements should be accepted as the responsibility of the building principal and can be ac-

complished with decorum if he is able to interpret the situation professionally and knowledgeably.

Assignment to a special class or special school should be considered only for those children who need the protective environment and individualized help, and should not be considered a permanent assignment. As children progress physically, their continued placement should be questioned. Some children begin their special program with hospital instruction followed by homebound instruction. They are then transferred to a special class and integrated into regular school classes. Such progression represents a successful program and one hoped for by most special educators.

*Team
Responsibility*

The responsibility for placement in a special class usually results from the recommendations of a team of people. Medical eligibility is generally determined by a licensed examiner. A complete case study, including the medical, social, and school history, as well as a psychological evaluation, should be compiled. Ideally this information should be discussed using a staff conference process including the appropriate school personnel. Prior to the child's enrollment in the special class, the director of special education or specialized area supervisor should meet with the psychologist, school nurse, building principal, special teacher, therapists, school social worker, and regular teachers with whom the child may come in contact. Such a conference provides the opportunity for the exchange of information and for a complete understanding of the child's past history and current problems. Knowledge of his physical limitations helps the special teacher know how to plan for the child and makes the regular class teachers feel more secure in accepting the child into their classes.

If for any reason it is not possible to have staff conferences on each child, it should then become the responsibility of the building principal to secure the necessary information which led to the special class placement and to provide it to the special class teacher. Together, the interpretation of the information should

be made to other staff members who may be involved in the educational process. Continued placement in the special program should be contingent upon the evaluation of progress through the case study method. These evaluations should be done periodically, at least every two years. Should the special teacher feel the need for a reevaluation of the student either because the child no longer needs the services of the special class or because he does not seem to be profiting from these services, it should be his responsibility to ask for a full review. The principal can assist by arranging for a staff conference.

Records

Standards for the establishment and maintenance of special classes for the physically handicapped are determined by each state and vary among states. Information relative to the eligibility of children, certification of teachers, guidelines for construction of physical facilities, and administrative procedures is usually available from the department of special education of each state education agency. Persons concerned with the supervision of special classes should be thoroughly familiar with these rules and regulations.

Thorough reports should be completed on the medical, social, and educational history of a child before he is enrolled in a special service. These records become more comprehensive as reports from the nurse, counselor, speech therapist, occupational therapist, physical therapist, psychologist, and teachers are added. The cumulative file becomes an invaluable tool in determining the educational program and should be kept updated, reasonably confidential, and filed in a place readily accessible to professional persons concerned with the total educational program of the child.

It should be remembered that continued enrollment in a special class is subject to continuous review. Progress, or the lack of it, must be noted to provide for effective planning. Also there may be a complete turnover in the professional personnel concerned with a child as he proceeds through school. New personnel should be able to review the entire case to understand

what has been done in the past and what can be undertaken in the future.

Records are important. They are particularly important to the building principal who is the coordinating force responsible for the supervision of the total program in his building.

Reference

Calovini, G. *Special education rules and regulations*. Springfield, Ill.: Office of the Superintendent of Public Instruction, 1965.

7 Educational Provisions

Physical Facilities

The classroom itself should be centrally located within the building in order to facilitate integration with other general classrooms. Obvious hazards, such as high thresholds on doorways, sharp wall adornments, and modern chairs with protruding legs, should be avoided. The room should provide adequate ventilation and good heating facilities. Children with poor circulation or children who work on the floor from time to time should not be uncomfortable from the cold. Wide doorways and nonslick floor coverings provide for greater mobility of all children, whether they are confined to a wheelchair, use crutches, are heavily braced, or have any difficulty whatsoever in ambulation.

Since many physically handicapped children have limited vitality, they frequently require periods of rest during the day. Provisions for resting facilities should be made. Usually an adjoining room with adjustable lighting and a quiet atmosphere is selected. Folding cots have been found convenient since they can easily be stored when not in use, permitting maximum use of floor space. Although children frequently need rest, they do not necessarily need sleep. A record player and educational or recreational games which do not require the exertion of a great deal of energy should be made available.

Adjacent toilet facilities are imperative since many children find toileting difficult. Cubicles should be wide enough to accommodate children with wheelchairs and standard doors can frequently be replaced by curtains or accordion pleated doors which take less space and provide easier access. Handrails should be

provided to enable children to swing from the wheelchair to the toilet seat. Some consideration should be given to the height of the lavatories so that they are accessible to children confined to wheelchairs. Drain-pipes should have a protective covering in order to avoid burns to those children who lack the sensations of heat in their lower extremities and, therefore, may not be aware that they are being subjected to high degrees of temperature.

Several important factors should be borne in mind when planning special facilities for the physically handicapped. In most instances, there will be severe difficulty in ambulation. Aisles between desks should provide adequate space for children in wheelchairs, those using crutches or canes, and those with a waddling, reeling gait. It has been estimated that 60 square feet of floor space per child should be used as a guide. Children whose coordination is poor or who have difficulty in grasping things can be expected to drop or spill numerous items during the course of the day. There is a need for adequate lavatory facilities within the classroom itself. Since these children need a great deal of specially adapted educational equipment and materials, as well as equipment which is used to compensate for the physical disability, extra large storage areas should be provided.

It should be remembered that many children have limited contacts outside of school; therefore, the physical environment should be made as pleasant as possible.

Equipment

A physically handicapped child was identified earlier in this book as one who suffered from lowered vitality or from a restricted range of motion. Special classes for the physically handicapped attempt to compensate for these disabilities by providing additional equipment and materials or by adding special adaptations to regular equipment so that it can be used successfully. The amount of equipment which a special class contains is limited only by the financial resources of the school and by the ingenuity of the special teacher. A resource-

ful teacher is frequently able to design a piece of equipment which does not exist on the commercial market but which he believes will assist a particular child to function with a greater degree of proficiency. It is not uncommon for the teacher to share these ideas with the building principal and to have him provide assistance in working with the industrial arts department of the school in having prototype items produced.

Some children who are confined to wheelchairs find that the chair does not conveniently pull up to the worktable. In these instances, the shop may design a special lapboard or chairboard which can fit conveniently over the particular chair. The size of the board can extend over the wheelchair as far as is convenient to provide as much workspace as necessary.

Some children prefer to work in a standing position but are unable to stand alone. Frequently, standup tables are provided in the special class. These can either be purchased commercially or designed and made in the local school shop. Again, the table size will depend upon the room space available and the age of the children. They can be made in the shape of a square, circle, or hexagon. Usually each side of the table top has a semicircular indentation large enough to fit the torso of the typical child for the age range for which it was intended. Behind this, a box is attached with one side that can be opened and then fastened securely. A youngster is put into the box which runs from about waist level down and the side is fastened. Since the box is approximately the same size as his waist measurements, he is automatically held in an upright position even though his braces may be unlocked and his knees flexed to some degree. A change in position for a child ordinarily confined to a wheelchair provides a pleasant diversion and enables him to attack work from a new perspective. Similar tables can be provided with the cutout indentations but without the box for youngsters who do not need total body support. Relaxation chairs, helmets, and sandbags

are routine pieces of equipment ordinarily used with children who suffer from gross motor incoordination.

Some children who can use only one or two fingers on each hand must use a typewriter as their sole means of written communication. It has been found that electric typewriters are superior to the manual type since they take less pressure and muscle power to manipulate the keys and carriage. A number of the typewriter companies make shields which can be adjusted over the regular keyboard. The shield is fastened about a quarter to a half inch above the keyboard and perforations in the shield correspond to the keys below. In this way, even children with a great deal of extraneous and uncontrollable motion can use the typewriter without accidentally hitting a number of keys.

Some children have difficulty holding books and will require racks or holders. Other children whose fine muscle coordination is lacking or who may be paralyzed and unable to use their hands or arms may need electric page turners.

Movable chalk boards are used frequently. Some children cannot stand at a regular board comfortably and others cannot reach the board from their wheelchairs. Movable boards enable the teachers to relocate them wherever they are needed within the room as children work. They can be adjusted so that wheelchairs slip under them for comfort and convenience to the child.

Tape recorders with earphones are another example of typical equipment used in the special class. By using earphones, a single child or a group of children can work on a particular assignment without creating a disturbance for the rest of the class. Film strip, movie, or slide projectors, show and tell machines, and other pieces of audiovisual equipment should be readily accessible since these children are frequently denied many of the learning experiences which can be brought to them vicariously on either film or tape.

The typical special class for the physically handicapped has a limited enrollment but, in all probability,

Materials

covers a wide grade range. Since special classes operate on the basic premise that each child should be permitted to proceed at his own rate, there is need for a great deal of educational material. Again, the variety and amount will be governed by the class budget and the teacher's ingenuity.

Children who have little or no hand or arm involvement may easily use conventional materials while children who have upper extremity involvement present a completely different educational picture. For example, lack of coordination may prevent many children from grasping a conventional pencil until it is punched through a regular rubber ball so the youngster can grasp the ball and be in control of the writing instrument. As his coordination improves, the size of the ball may be reduced until eventually he is able to grasp a regular lead pencil. Some children, unable to close their hands sufficiently to grasp even an adapted writing instrument, must use a hand brace with an attachment to which a pencil or other writing instrument may be affixed. Other children may not have sufficient coordination to use paper and pencil. In some instances, shallow pans filled with damp clay will provide sufficient resistance to enable a child using a stylus to practice writing. Still other children may use a damp sponge to write on a chalkboard. In either instance, gross movements will be demonstrated which can be refined as the child progresses.

Items such as puzzles or checkers can be made easier to manipulate if each piece has a small spool type handle attached. For manageability, checkers can have holes drilled through them with golf tees inserted and glued into place. The regulation board can be mounted on a one inch piece of plywood with a hole drilled into each square to accommodate the tip of the golf tee. With such adaptations children with unsteady hand movements can enjoy games without repeated disruptions due to inadvertent movement of the pieces.

Thumbtacking or taping paper onto a desk top is another simple but effective way to eliminate difficul-

ties. Sometimes the original page can be covered with a piece of plastic which the child can use to record his answers. If water soluble ink is used, the plastic can be wiped clean and used repeatedly. Plastic sheets also provide an excellent protective covering for those children who have difficulty controlling facial muscles and drool.

Occasionally children who are severely involved with cerebral palsy are unable to communicate verbally but can use a speech board effectively. The speech board contains letters of the alphabet, numbers 0 through 9, and simple answers such as "yes," "no," and "I don't know." In response to a query, the child can point to or spell out the appropriate answer for the questioner.

These few examples are illustrative of adapted materials. Many other adaptations can be made depending on the handicap and the needs of the particular child. Many conventional materials can and should be used either during the formal instruction or during those periods of the day when the child can work alone and unsupervised. Since many grade levels exist within the single special class and since the teacher must spend his time working with a number of different groups of children, the unsupervised periods may appear frequently during the course of the day. Under these circumstances unlimited amounts of various educational materials and games are desired.

Reference

National Easter Seal Society for Crippled Children and Adults.
A manual of cerebral palsy equipment. Chicago: The Society,
1950.

8 Ancillary Services

Speech Correction

It is not unusual for children with physical disabilities to have other concomitant handicaps which require specialized services. These include speech correction, occupational therapy, physical therapy, and transportation.

Speech is said to be defective when it calls attention to itself rather than to the ideas which it is trying to convey. Most speech problems can be classified as articulation problems, voice problems, stuttering, or retarded speech development.

Articulation problems take three main forms: omissions, distortions, or substitutions. Omissions refer to incorrect speech in which a sound is habitually left out, such as "back" for "black." An example of distortion is an "s" sound as whistled through maloccluded teeth. A sound used in place of another, such as "wight" for "right," is classified as a substitution.

Defects of voice may include a voice which is pitched too high or too low. Hoarseness and nasality are other qualities which are undesirable and which may be corrected through speech therapy.

Stuttering is defined as a disturbance of the rhythm or fluency of speech and quite frequently the basic problem is psychological.

Retarded speech development can result from illness and physical impairments resulting in long periods of hospitalization and the lack of a climate conducive to developing speech. Additional speech problems result from congenital handicaps such as cleft palate. Other defects are the result of hearing impairments.

Speech correction is a highly specialized field. The correctionist is able to identify the children who need

*Physical
Therapy*

speech correction and can determine the number of therapy periods needed per week based on the severity of the defects and the case load of the individual correctionist.

Physical therapy can be defined as the treatment of a person by the use of exercise, massage, heat or cold, air, light, water, electricity, or sound for the purpose of correcting or alleviating any physical or mental condition. Therapy is also given to prevent the development of any physical or mental disabilities. The performance of tests as an aid to the diagnosis or treatment of any human condition is permitted provided that radiology or electrosurgery is not included.

The aim of physical therapy is to bring about the most complete restoration of physical functions possible. Heat is used to dilate the blood vessels and increase circulation, thereby improving the nutrition of tissues and accelerating the processes of repair. Massage tends to improve the tone of the tissues and to reduce swelling or hemorrhages. Light frequently causes a beneficial chemical reaction in the body and exercise causes an increase of circulation which prevents the development of adhesions and deformities.

Therapists always work from a doctor's prescription which describes the nature of disability and indicates the kinds of therapy which should be given. It is the responsibility of the therapist to consult with other members of the educational team to make them aware of the child's abilities and the goals which are being attempted, and to determine that follow through is enacted during the rest of the school day in addition to the therapy period.

*Occupational
Therapy*

The occupational therapy program includes the improvement of muscle activity, the development of the idea of movement in the child, and the instruction in self help skills. The major aim of the occupational therapist is to evolve activities of interest to the child which will develop adequate motions and improve muscular coordination. Feeding, dressing and undress-

ing, as well as writing and typewriting, are within the province of the occupational therapist.

The occupational therapist evaluates the performance level of the child in relation to daily living tasks and helps restore physical functions by increasing muscle power and developing coordination. He works toward the development of self help skills and analyzes the patient's ability through dexterity testing. All of this eventually contributes to the total prevocational exploration program.

Occupational therapy frequently is prescribed for disabilities of the upper extremities and particularly of the hands. Workshop activities, such as simple construction, weaving, and leathercraft, often accomplish physical rehabilitation and stimulate interest and confidence simultaneously.

Occupational therapy is prescribed by the medical examiner and the therapist should assume the responsibility of working closely with the professional team to coordinate the service leading toward the total educational improvement of the child.

Transportation

As a rule, most physically handicapped children require transportation to and from school. Buses, carryalls, taxicabs, and private automobiles can be used. Since children are transported from all sections of the district, they frequently arrive and depart at various times. Generally docks or sheltered carports are provided to facilitate loading and unloading children during inclement weather. Frequently children attending special classes housed in regular school buildings need additional transportation in order to be taken to the physical or occupational therapy unit if it is not located in the same building. An important responsibility of the building principal is to see that this activity is properly supervised. Some children who are transported by special bus arrive at school quite early. The principal should see that they are properly supervised prior to the beginning of the school day.

Scheduling for transportation of special education students is a demanding task for the administrator of

the special education department. The principal should work with the administrator and the special classroom teacher in developing procedures which parents can follow on days when children must be absent from school. It is unsound in terms of time and money to permit the driver to make extended trips to pick up children only to find that they will not be attending school that day. A routine procedure should be devised whereby the parents must assume responsibility for notifying school authorities when transportation will not be needed.

References

- Johnson, W., & Brown, S. et al. *Speech handicapped school children*. New York: Harper & Row, 1967.
- Levitch, J. A. *Occupational therapy—A new life for the disabled*. Public Affairs Pamphlet No. 420, Public Affairs Committee, New York, June 1968.

9 Administrative Responsibilities

Scheduling

Although enrollment in special classes is limited, the special teacher must be adroit at developing schedules which will allow for participation in regular classes, speech therapy, occupational therapy, physical therapy, as well as to allow for deviations in the transportation schedule. The building principal can offer invaluable assistance in developing the total school schedule which will permit handicapped children to participate as fully as possible. Occasionally transportation difficulties make it necessary for the exceptional child to reach school late or to leave school early. Integration into regular classes is greatly hampered when transportation schedules interfere with these classes. The principal as administrative head within his own building can eliminate many difficulties by rendering his assistance in establishing a schedule which is mutually beneficial to all concerned.

The special class teacher should be considered when lunch periods and recess breaks are determined. The school code in most states specifies a minimum lunch period for all teachers. Sometimes special teachers who must assume the responsibility of supervising their own children during the lunch period find that they are not without responsibility for some children during every minute of the day. Every effort possible should be made to alleviate such conditions since it is impossible for a teacher to maintain good mental health or to do his best without some duty free time.

Supervision

The principal plays a key role in the success of special class programs located in regular school buildings because his attitude and acceptance of the special classes is reflected in the attitudes of all the other personnel.

When new personnel are being considered for placement within a building which houses special classes or when new special classes are being considered for placement within a regular school building, a comprehensive interpretation of the program should be made. This job can be accomplished through a variety of means. If a new class is to be established, the special education administrator, state consultant, and special teacher can meet with the regular staff of the building. The philosophy of the program can be interpreted and the aims and objectives outlined. Some of the more common diagnoses can be described and some of the specialized equipment demonstrated. The regular teachers should be made as familiar as possible with the program and the potential of the students so that unwarranted fears can be eliminated. An integrated program can be successful only when all of the school personnel involved are concerned and anxious to make a valid contribution. New teachers should not be assigned to a building without being informed of the existence of special classes housed there and that when integrated classes exist they will probably be working with handicapped youngsters. Frequently the regular class loads are decreased in order to compensate for the additional help or individual attention which the teacher must give the handicapped child.

Special teachers whose training has encouraged them to accept the responsibility of educating the general public about handicapped children will welcome the opportunity to describe their programs, not only to the school personnel involved, but also to the parent teacher associations and other related organizations.

Acceptance does not come solely from the fact that the classroom exists physically in the same building as regular classes. Instead, it is an ongoing process precipitated and continued only by mutual unending efforts. The principal again can assist in the acceptance of the special education personnel by regarding them as members of the regular school staff. Invitations to teachers' meetings and assignments of total school

responsibilities should be shared equally by the special teacher. For example, the special teacher might act as sponsor of the school newspaper, head one of the fund drives affiliated with financial assistance for the handicapped, assume responsibility for decoration of the hall bulletin boards or display cases, or assist with the sponsorship of one of the school clubs. Actually, although the special class teacher has a limited enrollment, his activities during the course of a typical day are tantamount to that of a magician. Not only must he secure or design adapted equipment and material for those children whose educational retardation or extreme physical handicaps keep them in the special class all day, but he must plan their lessons as well as the lessons for those children who are integrated only a portion of the day. In addition it is also his responsibility to keep in close contact with the speech therapist, occupational therapist, physical therapist, and regular classroom teachers to determine the progress of the children assigned to these classes or services. When adaptations must be made in testing materials, it again becomes the responsibility of the special teacher to make the necessary provisions. Occasionally a child who has severe involvement of the hands and arms must be given a test orally.

Some special programs for the physically handicapped provide the services of a matron, class attendant, or teacher aide. These persons are invaluable to the teacher; they can relieve him of many housekeeping chores which would ordinarily drastically reduce the amount of time when he could use his professional talents. When attendants are not available, it then becomes the responsibility of the teacher to feed children who are not capable of feeding themselves, assist them with toileting, administer medication as prescribed by the child's doctor, and assist with the locking and unlocking of braces. It is imperative that the school principal have some knowledge of the demands made upon the teacher's time in order to have an understanding of what is being accomplished.

Special consultants available to the regular school personnel should also be made available to the special teacher. These might include consultants in art, music, physical education, etc.

In some instances, building principals will have the responsibility for supervision of the home or hospital instruction classes provided for those children who would ordinarily be enrolled in that particular building. Many home or hospital instruction cases are of short duration and their primary objective is to keep the child on an academic level commensurate with his class so that he may return to the regular school with little or no difficulty. A successful program cannot be accomplished unless the special teacher is in close communication with the regular staff. Again, the principal serves as a key person in interpreting the program and in encouraging cooperation and assistance from the regular staff.

The exact amount of supervision depends upon the kind of administrative arrangement provided by the special education department. If supervision is assigned to the building principal, he should make every effort to contact the home prior to the establishment of the class. If the class extends for an indefinite number of months, it should be his responsibility to make periodic visits. Home or hospital instruction is one of the most well received special education programs in terms of enthusiastic and appreciative response from the parents. Visits to these classes will probably be one of the most pleasant of all responsibilities assumed by the building principal.

In summary, it might be said that the building principal has the same responsibility for supervision of the special classes that he has for his total school program. Frequently he may have more responsibility since he will want to have sufficient information about the program to act expeditiously in emergencies or to discuss aspects of the programs with parents and medical or paramedical professionals.

Too often the special program is weak because it is

isolated. The administrator is in a key position to understand the program, interpret the philosophy, and describe its services to the regular school staff. His interest and concern will directly influence the degree of success which the program can expect to experience.

10 Summary

This book has made no attempt to describe the curriculum of the special class for the physically handicapped. In traditional orthopedic classes where children have average or above intellectual ability and where classes are integrated, it is usually advisable to follow a regular course of study although children will achieve at different grade levels in the various school subjects just as nonhandicapped children do. In addition, there may be a higher degree of educational retardation due to the factors which were described earlier. It should be remembered that the kinds of children enrolled in special classes for the physically handicapped are changing. No longer do we have children with pure orthopedic difficulties such as the residual effects of rickets, polio, or osteomyelitis. Instead the children seem to be more severely involved and have multiple handicaps. Providing for these multiply handicapped children has required educators to deviate from the stereotype class in an attempt to provide more adequate programs. As a result, some classes have been established for the cerebral palsied alone, others have been established for the physically handicapped and retarded, and others accommodate the physically handicapped and visually handicapped. Some children with physical involvement show severe learning difficulties while other children with minimum or no physical involvement suffer from severe perceptual problems. The old concept of categorizing according to handicap is phasing out in favor of providing the kind of physical and academic atmosphere in which the child can best be assisted. The curriculum must depend, not only on the nature of the handicaps, but also on the

remaining capabilities and the media which must be used in order to foster the growth of these capabilities.

Programs for the physically handicapped are in a period of transition. New and innovative ideas are being introduced. Administrators are urged to be aware of and interested in changes in the field which are constantly being developed.

Reference

Johnson, D. J., & Myklebust, H. R. *Learning disabilities—Educational principles and practices*. New York: Grune & Stratton, 1967.

Appendix A

Physically Handicapping Conditions

The following descriptions of handicapping conditions were among those most frequently reported in surveys made by the Illinois Department of Special Education. They do not necessarily appear in the order of frequency.

Cerebral Palsy

Cerebral palsy is an impairment or loss of neural activity caused by lack of formation, malformation, or injury to the brain either before, during, or after birth. The four general types of cerebral palsy include spastic, athetoid, ataxic, and tremor.

The movements of the spastic seem stiff, jerky, and uncertain. The victim may drool and show defective speech. Frequently there are deformities due to the inability to relax.

The athetoid displays a twisting, rolling, purposeless type of motion which is continuous and slow. His movements are exaggerated and he usually displays involuntary motion but is unable to make a definite prescribed movement.

Ataxics show a disturbance of equilibrium and coordination, frequently feeling quite dizzy and light-headed. As a result, they walk with a reeling, unsteady gait with a wide base and have a tendency to fall forward. Slurred speech and a difficulty of orientation in space are common.

Persons suffering from tremor display rhythmic involuntary contractions limited to certain muscle groups.

Cerebral palsy may also result from encephalitis, cerebral hemorrhage, meningitis, or accidents. Although children can be identified as displaying one type of cerebral palsy predominantly, they frequently

are affected in some measure by all types. There is no known cure for cerebral palsy; however, many patients have been rehabilitated through the use of modern surgical procedures and therapeutic practices.

Cerebral palsy is due to injury or malformation of the brain; therefore, many children also suffer from perceptual impairment. These difficulties cause severe learning problems and frequently necessitate special teaching methods and materials.

Spina Bifida

Spina bifida is a congenital deformation of the spine caused by the lack of closure of the vertebral column. This incomplete closure usually results in the protrusion of the spinal cord into a large sack frequently at the base of the spine. Whenever possible surgery is done at a very early age. The degree of handicap is determined by the location and severity of the deformity. If the defect is in the upper region of the spinal cord, the patient will have extremely limited motions of the head and be paralyzed from the site of the lesion downward. Usually the defect occurs in the lower back. Symptoms associated with it are dislocation of the hip, club feet, partial or full paralysis in the lower extremities, changes in tactile and thermal sensations, and lack of bowel and bladder control. There is no cure for spina bifida per se, but if the associated effects of the condition can be satisfactorily treated by surgery or special equipment which can provide mechanical control, the patient will be able to live a full and productive life. Problems with these children in public school classes frequently stem from their lack of bowel and bladder control.

Progressive Muscular Dystrophy

Dystrophy is a Greek word which means defective nutrition. Although most cases have a great deal in common, there are differences which may be important. Pseudohypertrophic muscular dystrophy is the most prevalent form. It begins in childhood between the ages of 3 and 10 and its course is more rapid than any other type. It is hereditary in 35 percent of all cases and affects three times as many males as females. Symptoms are first noted in the legs and forearms. As

*Osteogenesis
Imperfecta*

the condition advances, the child stands with an obvious increase of backward curvature of the spine and walks with a peculiar waddling gait. He has difficulty in climbing steps and falls frequently. When the victim attempts to arise from the floor, he usually climbs laboriously upon his legs and thighs until he is able to reach a standing position. Weakness is also shown around the shoulders and chest although muscles appear to increase in size. Actually, they are beginning to atrophy and a fat substitution occurs. The common course is for the disease to progress in the six to twelve years after onset until the patient becomes confined to a wheelchair. Occasionally for no obvious reason, the disease is arrested before the disability becomes severe. There are educational implications which may be drawn from this condition since the child is limited in his mobility and may react by showing verbal aggression or withdrawing completely from reality.

Osteogenesis imperfecta is a Greek term which can be broken down into its basic parts meaning bone formation imperfect. It is a congenital condition for which no known cure has been found. It is also frequently referred to as the brittle or fragile bone disease. The extremities are small and bowed due to repeated fractures and the amount of deformity depends directly on the number of fractures the child has suffered. Teeth are usually yellowish brown in appearance and the whites of the eyes may appear to be blue. Some children develop a hearing loss due to defective bone formation in the ear. Since the bones are so brittle some children may be born with fractures. Other children have been known to break arms or legs simply by turning over in bed. The cause of osteogenesis imperfecta is unknown but it has been attributed to an endocrine disorder or disturbance. Treatment for the most part is unsatisfactory since casts applied to the fractures cause increased tendency for future fractures due to wasting away during the period of immobilization. An educational implication to be con-

Legg Perthes

sidered is the inability of these children to work out their feelings of aggression physically.

Legg Perthes is a flattening of the growth part of the head of the femur, or large leg bone, due to a bony change. It is usually found in boys between the ages of 4 and 6 years. Its earliest manifestations are a limp and pain on the inner side of the thigh or knee. As the disease progresses the limp persists and may become more severe. The hip finally suffers limitations of all motions.

Prognosis is more favorable in younger children than in older. By relieving the strain of weight by means of traction, crutches, splints, or hip slings, degeneration of the bone is minimized and regeneration is hastened.

Congenital Dislocation of the Hip

Congenital dislocation of the hip is a condition in which the head of the femur (large bone in the leg above the knee) is not situated in the socket. The leg on the side of the dislocation appears to be shorter than the other one due to the fact that the head of the femur is not located in the hip socket and slides along the side of the pelvis. As a child becomes older there will be a very noticeable limp and the leg will become shorter. In some cases a double dislocation may appear and it will be characterized by a waddling type of gait with the body swaying from side to side. Also associated with these cases may be a curvature of the spine or hollow back. No specific cause is known. If, however, early diagnosis is made, a child suffering from the condition may be completely rehabilitated. On the other hand, if the condition is not detected early in childhood, partial or complete loss of movement in a leg or legs may occur.

Scoliosis

Scoliosis is a condition in which there is a lateral curvature of the spine. Idiopathic scoliosis or "cause unknown" scoliosis occurs only through the periods of growth. The curve does not progress at a constant rate and seems to be more prevalent in girls than in boys. Visible symptoms as the curvature proceeds include a change in a normal position of the head (it may be

carried to one side), a difference in shoulder levels, or prominence of one hip. In many cases it seems to occur during that period when a child has a sudden spurt of growth. Any disease which tends to soften the bony tissue of the spinal vertebrae may lead to scoliosis. Polio, for example, often causes muscle imbalance and changes the position of the spinal bones. Scoliosis may be treated by the use of braces or corsets which attempt to hold the spine straight. Spinal fusion may be performed after the patient reaches full growth but is a drastic measure. Prognosis for this type of disability is good.

Osteomyelitis

Osteomyelitis is a Greek word meaning inflammation of the bone marrow. The condition is most common in children in the age period when bone growth is active, and lower extremities are more often affected. Incidence is higher in rural areas. Infections are frequently present at birth but may be triggered by accident, fever, fatigue, and malnutrition. The condition typically follows boils, upper respiratory infections, high fevers, or infected abrasions. Circulation seems to slow down in the area which is affected and an abscess occurs near the joint and burrows out through the bone. Since the discovery of antibiotics, the prognosis is much more favorable. Usually the affected joint goes into a muscle spasm but permanent contractures may be prevented by splints or casts. The danger of fractures may be threatening due to the weakness of bones caused by the infection.

Osgood-Slatter's Disease

Osgood-Slatter's disease is a partial separation of the growth end of the tibia (shin bone). It is apparently caused by sudden or continued strain and is a knee condition similar to the Legg Perthes condition of the hip. Osgood-Slatter's disease usually occurs in boys between the ages of 10 and 15 years and is especially common among those who ride bicycles. It frequently occurs in both legs and is associated with pain over the end of the tibia which sometimes becomes enlarged and is often tender. The outlook for cure is excellent as the progression of the affliction is self

limited and the symptoms nearly always respond favorably to treatment.

Hemophilia

Hemophilia is a condition characterized by a tendency to bleed immoderately because of improper coagulation of the blood. An individual suffering from hemophilia must be extremely careful for any quick movement or bump may cause an internal or external hemorrhage resulting in crippling conditions because of its effects on the joints. The condition is congenital. At the present time there is no known cure for hemophilia but injections of blood plasma have facilitated coagulation and have saved many lives.

Rheumatic Fever

Rheumatic fever is a chronic disease which usually occurs between the ages of 5 and 15. It is estimated that .10 percent of the school population is affected and approximately 40 to 50 percent of this group will develop no permanent heart damage if the disease does not reoccur. Rheumatic fever attacks the connective tissue and causes inflammation of the muscle, valves, and outer lining of the heart. It has no one characteristic symptom, but pain in the joints and a continued fever are common. Other symptoms which usually accompany rheumatic fever attacks are loss of weight, pallor, and poor appetite. The exact cause of rheumatic fever has not been determined but it is estimated that approximately 90 percent of the cases have started because of a strep infection. It is important to point out that all strep infections do not necessarily mean that rheumatic fever will follow. Rheumatic fever is a persistent disease which may still be active months or even years after the acute symptoms have passed. If proper bed rest is provided, a patient may be able to make a complete recovery. If the patient is not able to make satisfactory recovery, permanent heart damage or other complications can occur.

Appendix B

Selected List of Organizations

American Cancer Society
219 East 42nd Street
New York, New York 10017

American Heart Association
44 East 23rd Street
New York, New York 10010

Arthritis Foundation
1212 Avenue of the Americas
New York, New York 10036

Bureau of Education for the Handicapped
US Office of Education
7th and D Streets, S.W.
Washington, D.C. 20202

Council for Exceptional Children
1201 Sixteenth Street, N.W.
Washington, D.C. 20036

Epilepsy Foundation of America
1419 Fourth Street, N.W.
Washington, D.C. 20005

Library of Congress
Division for Blind and Physically Handicapped
Washington, D.C. 20542

Muscular Dystrophy Associations of America, Inc.
1790 Broadway
New York, New York 10019

National Cystic Fibrosis Research Foundation
202 East 44th Street
New York, New York 10017

National Easter Seal Society for Crippled Children and Adults
2023 West Ogden Avenue
Chicago, Illinois 60612

National Foundation—The March of Dimes
800 Second Avenue
New York, New York 10017

National Multiple Sclerosis Society
257 Park Avenue South
New York, New York 10010

National Tuberculosis and Respiratory Diseases Association
1740 Broadway
New York, New York 10010

Public Affairs Committee, Inc.
381 Park Avenue South
New York, New York 10016

United Cerebral Palsy Associations, Inc.
66 East 34th Street
New York, New York 10016